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EXAMINER

LESPERANCE, J

ART UNIT

PAPER NUMBER

2674

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/289,600

Applicant(s)

Akira Yamaguchi

Examiner

Jean Lesperance

Group Art Unit

2674

☐ Responsive to communication(s) filed on _____☐ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim☒ Claim(s) 1-23 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.☒ Claim(s) 1-23 is/are rejected.☐ Claim(s) _____ is/are objected to.☐ Claims _____ are subject to restriction or election requirement.**Application Papers**☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on _____ is/are objected to by the Examiner.☒ The proposed drawing correction, filed on Oct 12, 1999 is ☒ approved ☐ disapproved.☐ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been☒ received.☐ received in Application No. (Series Code/Serial Number) _____☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☒ Notice of References Cited, PTO-892☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5☐ Interview Summary, PTO-413☐ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102 (b) as being unpatentable over patent # 6,128,600 ("Jouppi et al.").

As for claims 1-4 and 9, Jouppi et al. teach a monochromatic image display system (column 3, lines 8-14) comprising a display device which can express each picture element of monochromatic image by a series of cells each of which can express tones in multiple levels (column 1, lines 27-37), and a cell signal generating means which generates (column 1, lines 65-67 and column 2, lines 1-10), on the basis of a monochromatic image signal determining the output luminance of a monochromatic image, a cell signal for each cell which determines the output tone level of the cell so that as that average of the output luminance of all the cells for each picture element corresponds to an output luminance of the picture element (column 11, lines 52-64).

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As for claims 5-7, Jouppi et al. teach a pixel (column 1, lines 12-20) corresponding to a cell signal generating means time modulates the input signal levels to the respective cells independently of each other (column 9, lines 4-7 and column 11, lines 52-64).

As for claim 8, Jouppi et al. teach the maximum number of tones which can be expressed by each cell per one frame is not smaller than 64 (6 bits) (column 13, lines 37-46).

As for claim 10, Jouppi et al. teach a number of tones represented by the original monochromatic image signal is not smaller than 256 (B bits) (column 4, lines 39-52).

As for claim 11, Jouppi et al. teach a display device expresses each picture element by three cells (column 5, lines 36-46).

As for claim 12, Jouppi et al. teach a display device is a liquid crystal panel (column 3, lines 35-45).

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17 are rejected under 35 U.S.C. 103 (a) as being unpatentable over patent # 6,128,000 ("Jouppi et al.") in view of patent # 5,748,164 ("Handschy et al.").

As for claims 13-17, Jouppi et al. teach a monochromatic image display system (column 3, lines 8-14) comprising a display device which can express each picture element of a

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monochromatic image by a series of cells each of which can express tones in multiple levels (column 1, lines 12-20) and at least two of which have maximum out levels different from each other (column 17, lines 46-51). Accordingly Jouppi et al. teach all the claimed limitations as recited in claim 13 with the exception of providing a drive which drives the pixel.

However, Handschy et al. teach a conventional row driver (column 8, lines 61-67 and column 9, lines 1-23) corresponding to a drive means which drives the cells so that the output level difference per one level differs from each other between said at least two cells.

It would have been obvious to utilize the driver as taught by Handschy et al. in the full-screen antialiasing system disclosed by Jouppi et al. because this would have allow the writing of each pixel without the use of a data storage buffer.

3. Claims 18 to 23 are rejected under 35 U.S.C. 103 (a) as being unpatentable over patent # 6,018,237 ("Havel") in view of Foley et al.

As for claim 18-23, Havel teaches a flat panel image display system using a flat panel-like display device characterized in that the display device is a monochromatic display device (column 1, lines 43-51) and page 2. A substrate, a polarizing film, a face plate, a diffuser panel, a color filter, a diffuser film, a collimator film, and a prism film are well known in the art. The range of 100cd/m to 10000cd/m and the range of 500cd/m to 5000cd/m are just design choices. Accordingly Havel teaches all the claimed limitations as recited in claims 18-23 with the exception of providing the region surrounded by points (0.174, 0), (0.4, 0.4) and (a, 0.4) as represented by

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co-ordinates (x, y) on a CIE chromaticity diagram, wherein a represents the x-coordinate of the intersection of a spectrum locus and a straight line $y=0.4$.

However, the reference "computer graphics" (Foley et al.) teaches the CIE Chromaticity diagram. See page 579 and page 581, fig. 13.24.

It would have been obvious to utilize the CIE chromaticity diagram as taught by Foley et al. in the digital multimeter disclosed by Havel because this would allow to place the points anywhere in the region to measure the dominant wavelength and excitation purity of any color.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6414. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Jean Lesperance



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Date 12-14-2000

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RICHARD HJERPE
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